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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/823,266 | 04/13/2004 | Terry Buelna | TBUEL-002A | 3487 |
| 7663 | 7590 | 01/05/2005 | | EXAMINER |
| STETINA BRUNDA GARRED & BRUCKER 75 ENTERPRISE, SUITE 250 ALISO VIEJO, CA 92656 | | | | TRIEU, THAI BA |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3748 | |

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/823,266 | BUELNA, TERRY | |
| | Examiner | Art Unit | |
| | Thai-Ba Trieu | 3748 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) 18 and 19 is/are allowed.
- 6) Claim(s) 1-3,6,7,10 and 14-16 is/are rejected.
- 7) Claim(s) 4,5,8,9 and 11-13 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____ . |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

1. Applicant should select only one of the following terms to describe the element “32” to maintain the consistency of the whole specification:
 - a. -- cylinder 32-- (See Paragraph [0037], lines 2, 4, and 6);
 - b. – chamber 32 – (See Paragraph [0037], line 8);
 - c. – chambers or cylinders 32 -- (See Paragraph [0040], line 3); or
 - d. –cylinder bore -- (See Paragraph [0042], line 3).
2. In the Paragraph [0040], line 1, “**device**” after “***the fuel device 8***” should be deleted (for correcting redundancy).
3. Applicant should select only one of the following terms to describe the element “8” to maintain the consistency of the whole specification:
 - a. – fuel device 8-- (See Paragraph [0040], line 1); or
 - b. – fuel injector – (See Paragraph [0040], lines 3, and 6-8).
4. Applicant should select only one of the following terms to describe the element “6” to maintain the consistency of the whole specification:
 - a. – annular rings 6-- (See Paragraph [0049], line 2; and Paragraph [0050], lines 5-6);
 - b. – ring seals 6 – (See Paragraph [0049], line 3); or
 - c. – seals 6-- (See Paragraph [0049], lines 3-4, and .8; and Paragraph [0050], lines 5 and 7).

5. Applicant should select only one of the following terms to describe the element “21” to maintain the consistency of the whole specification:
 - a. – recess 21-- (See Paragraph [0051], line 1; and Paragraph [0050], lines 5-6); or
 - b. – fluid passage 21 – (See Paragraph [0051], line 5; and Paragraph [0052], lines 3 and 8).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul (Patent Number 5,209,190), in view of Bleser (Patent Number 1,798,866).

Paul discloses an internal combustion motor rotating a motor drive shaft having a rotational axis, comprising:

a rotating cylinder block (13) within which a plurality of pistons (40) reciprocate along an axis parallel to the rotational axis of the drive shaft (28), the rotating cylinder block being mechanically coupled to and rotating with the drive shaft;

a non-rotating motor casing (12) having opposing cylinder heads and enclosing the rotating cylinder block (13), the pistons (40) reciprocating in chambers defined

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within the cylinder block (13) and further defined by one of the non-rotating cylinder heads (16);

a non-rotating drive track (52) fastened to the housing and having an inclined surface thereon;

a roller (50) coupled to the piston by a connecting rod, the roller contacting the inclined surface on the drive track (52), the roller moving around the drive track as the drive shaft (28) rotates (See Figures 1-2); and

the piston being double headed with a connecting rod between the two piston heads the connecting rod having a curved surface (48) thereon located to abut a circular surface on the guide track that encircles the rotational axis (See Figure 2).

However, Paul fails to disclose a journal bearing within the roller and the structural details of the journal bearing.

Bleser teaches that it is conventional in the internal combustion engine art, to utilize a journal bearing within the roller (5,6) and the journal bearing comprising a disk supported by a shaft (Not Numbered) fastened to opposing sides of the piston, with the roller having an inner surface abutting an outer surface of the disk and a layer of lubricant interposed between roller and the disk so the roller forms part of the journal bearing (See figures 10-11).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a journal bearing within the roller and the structural details of the journal bearing, as taught by Bleser, to improve the efficiency of the engine Paul device.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul (Patent Number 5,209,190), in view of Bleser (Patent Number 1,798,866), and further in view of Palmer (Patent Number 4,492,188).

The modified invention as recited above; however, fails to disclose centrifugal means for lubricating the journal bearing.

Palmer teaches that it is conventional in the internal combustion engine art, to utilize centrifugal means for lubricating the journal bearing (64) (See Figure 3, Column 3, lines 27-40).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized centrifugal means for lubricating the journal bearing, as taught by Palmer, to improve the lubricating system in the modified Paul device.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul (Patent Number 5,209,190), in view of Bleser (Patent Number 1,798,866), and further in view of Demopolous (Patent Number 4,571,946).

The modified invention as recited above; however, fails to disclose annular seals.

Demopolous that it is conventional in the internal combustion engine art, to utilize an annular seal (12) interposed in a recess in the rotating cylinder block between the end of each cylinder and the adjacent cylinder head to seal the cylinder and form a plurality of adjacent annular seals (12), and further comprising a plurality of curved linear seals extending between adjacent annular seals; wherein the curved seals are curved about a circle that is concentric with the rotational axis of the drive shaft (15) (See Figure 1, Column 2, lines 63-68, and Column 4, lines 1-5).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the annular seals, as taught by Demopolous, to improve sealing of the rotary portion of the modified Paul device.

Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paul (Patent Number 5,209,190), in view of Bleser (Patent Number 1,798,866), and further in view of Palmer (Patent Number 4,492,188).

Paul discloses an internal combustion motor having at least two double headed pistons reciprocating in cylinders located in a cylinder block (13) that rotates about a rotational axis of a drive shaft (28) to which the cylinder block (13) is connected, the double headed pistons being connected by a connecting rod (not numbered) (See Figure 2) having a curved surface (48) facing away from the rotational axis and abutting a cylindrical bearing surface of a stationary guide track (52) fastened to a non-rotating housing (12) within which the cylinder block rotates, the housing having opposing ends (16) each enclosed by a cylinder head with opposing ends of the drive shaft (28) being

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rotatably supported by the opposing cylinder heads, the piston heads supporting a axle which mounts a roller (50) which pushes against a surface of the guide track to rotate the cylinder block and pistons about the rotational axis;

the roller being centered on an axis passing through the center of gravity of the double-headed piston and the connecting rod to which the roller is fastened (See Figure 2).

However, Paul fails to disclose a journal bearing inside the roller and the drive shaft having a fluid lubricating passage along its rotational axis.

Bleser teaches that it is conventional in the internal combustion engine art, to utilize a journal bearing within the roller (5,6) (See figures 10-11).

Additionally, Palmer teaches that it is conventional in the internal combustion engine art, to utilize the drive shaft having a fluid lubricating passage along its rotational axis, the fluid passage extending outward to at least one location at an exterior surface of the drive shaft the piston having a fluid passage through the piston in fluid communication with the at least one location and one of the journal bearing and the curved surface of the connecting rod (See Figure 3, Column 3, lines 27-40).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a journal bearing within the roller and the structural details of the journal bearing, as taught by Bleser, and the drive shaft having a fluid lubricating passage along its rotational axis, as taught by palmer, to improve the efficiency of the engine Paul device.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paul (Patent Number 5,209,190), in view of Bleser (Patent Number 1,798,866) and Palmer (Patent Number 4,492,188), and further in view of Demopolous (Patent Number 4,571,946).

The modified invention as recited above; however, fails to disclose annular seals.

Demopolous that it is conventional in the internal combustion engine art, to utilize an annular seal (12) interposed in a recess in the rotating cylinder block between the end of each cylinder and the adjacent cylinder head to seal the cylinder and form a plurality of adjacent annular seals (12), and further comprising a plurality of curved linear seals extending between adjacent annular seals; wherein the curved seals are curved about a circle that is concentric with the rotational axis of the drive shaft (15) (See Figure 1, Column 2, lines 63-68, and Column 4, lines 1-5).

It would has been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the annular seals, as taught by Demopolous, to improve sealing of the rotary portion of the modified Paul device.

Allowable Subject Matter

Claims 4-5, 8-9, 11-13, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 18-19 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hauser (Patent Number 6,662,775 B2) disclose an integral compressor for boost air in a barrel engine.
- Al-Hawaj (Patent Number 6,601,548 B2) discloses an axial piston rotary power device.
- Herrmann (Patent Number 2,237,989) discloses an internal combustion engine.
- Odawara (Patent Number 3,598,094) discloses a crankless reciprocating machine.
- Bleser (Patent Number 1,828,353) discloses an internal combustion motor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
December 19, 2004



Thai-Ba Trieu
Patent Examiner
Art Unit 3748